



DRIVING SURFACE PERFECTION

REFACE SPRAYABLE FILLER HARDENER

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
 Product Reference code: according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
 SDS Ref. (EU): HARSF2-SDS
 Issue date: 01/04/2021 Revision date: 11/10/2021 Supersedes version of: 01/04/2021 Version: 2.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
 Trade name : REFACE SPRAYABLE FILLER HARDENER
 UFI : EDE1-00HR-600Q-2AJ2
 Product code : HAR/SF
 Product group : Organic peroxide
 Other means of identification : UPOL/SF1, UPOL/SF2

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Main use category : Industrial use, Professional use
 Use of the substance/mixture : Coatings and paints, thinners, paint removers
 Function or use category : Hardener (Crosslinker)

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Manufacturer

U-POL Limited Ltd
 Denington Road
 GB- NN8 2QH Wellingborough – Northamptonshire
 United Kingdom
 T +44 (0) 1933 230310
technicalsupport@u-pol.com - www.u-pol.com

Importer

U-POL Netherlands B.V. B.V.
 Hoogoorddreef 15
 NL- 1101BA Amsterdam
 Netherlands
 T +31 20 240 2216
technicalsupport@u-pol.com - www.u-pol.com

1.4. Emergency telephone number

Emergency number : CHEMTREC: +44 (0) 870 8200418 (24 hrs)

Country	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2566 (Healthcare professionals- 24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	
United Kingdom	NHS England, Scotland & Wales	-	Call 111 or a Doctor	In Northern Ireland, contact your local GP or pharmacist during normal hours (www.gpoutofhours.hscni.net)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flammable liquids, Category 2 H225
 Organic Peroxides, Type D H242
 Skin corrosion/irritation, Category 1, Sub-Category 1B H314
 Serious eye damage/eye irritation, Category 1 H318

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Specific target organ toxicity — Single exposure, Category 3, Narcosis H336

Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

Highly flammable liquid and vapour. Heating may cause a fire. May cause drowsiness or dizziness. Causes severe skin burns and eye damage.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Contains

: ethyl acetate, methylethyl ketone peroxide

Hazard statements (CLP)

: H225 - Highly flammable liquid and vapour.

H242 - Heating may cause a fire.

H314 - Causes severe skin burns and eye damage.

H336 - May cause drowsiness or dizziness.

Precautionary statements (CLP)

: P210 - Keep away from heat, open flames, hot surfaces, sparks. — No smoking.

P261 - Avoid breathing vapours, fume, spray.

P280 - Wear eye protection, protective clothing, protective gloves.

P303+P361+P353+P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a doctor.

P305+P351+P338+P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER.

P403+P235 - Store in a well-ventilated place. Keep cool.

EUH-statements

: EUH066 - Repeated exposure may cause skin dryness or cracking.

Unknown acute toxicity (CLP) - SDS

: 1.14% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Vapours))

Labelling according to: exemption for packages of a capacity of 125ml or less

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Hazardous ingredients

: ethyl acetate, methylethyl ketone peroxide

Hazard statements (CLP)

: H314 - Causes severe skin burns and eye damage.

Precautionary statements (CLP)

: P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

P303+P361+P353+P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a doctor.

P305+P351+P338+P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

EUH-statements

: EUH066 - Repeated exposure may cause skin dryness or cracking.

2.3. Other hazards

Contains no PBT/vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

Component

ethyl acetate (141-78-6)

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

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Component	
methylethyl ketone peroxide (1338-23-4)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
ethyl methyl ketone (78-93-3)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
ethyl acetate substance with a Community workplace exposure limit	CAS-No.: 141-78-6 EC-No.: 205-500-4 EC Index-No.: 607-022-00-5 REACH-no: 01-2119475103-46	50 – 75	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336
methylethyl ketone peroxide	CAS-No.: 1338-23-4 EC-No.: 215-661-2 REACH-no: 01-2119437229-36	10 – 20	Org. Perox. A, H240 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Corr. 1B, H314 Eye Dam. 1, H318
ethyl methyl ketone substance with a Community workplace exposure limit	CAS-No.: 78-93-3 EC-No.: 201-159-0 EC Index-No.: 606-002-00-3 REACH-no: 01-2119457290-43	0.3 – 2.5	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Call a physician immediately.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	: Rinse mouth. Do not induce vomiting. Call a physician immediately.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects	: May cause drowsiness or dizziness.
Symptoms/effects after skin contact	: Burns. Repeated exposure may cause skin dryness or cracking.
Symptoms/effects after eye contact	: Serious damage to eyes.

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Symptoms/effects after ingestion : Burns.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Highly flammable liquid and vapour. Heating may cause a fire.
Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes. Do not breathe vapours, spray, fume.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes. Do not breathe vapours, spray, fume.
Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.

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Storage conditions	: Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store away from other materials. Protect from sunlight. Keep only in original container. Store locked up.
Incompatible materials	: combustible materials.
Storage temperature	: ≤ 25 °C

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

ethyl acetate (141-78-6)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Ethyl acetate
IOEL TWA	734 mg/m ³
IOEL TWA [ppm]	200 ppm
IOEL STEL	1468 mg/m ³ 1468 mg/m ³
IOEL STEL [ppm]	400 ppm
Regulatory reference	COMMISSION DIRECTIVE (EU) 2017/164 COMMISSION DIRECTIVE (EU) 2017/164
Ireland - Occupational Exposure Limits	
Local name	Ethyl acetate
OEL TWA [1]	734 mg/m ³
OEL TWA [2]	200 ppm
OEL STEL	1468 mg/m ³
OEL STEL [ppm]	400 ppm
Remark	IOELV (Indicative Occupational Exposure Limit Values)
Regulatory reference	Chemical Agents Code of Practice 2020
United Kingdom - Occupational Exposure Limits	
Local name	Ethyl acetate
WEL TWA (OEL TWA) [1]	734 mg/m ³
WEL TWA (OEL TWA) [2]	200 ppm
WEL STEL (OEL STEL)	1468 mg/m ³
WEL STEL (OEL STEL) [ppm]	400 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
ethyl methyl ketone (78-93-3)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Butanone
IOEL TWA	600 mg/m ³
IOEL TWA [ppm]	200 ppm
IOEL STEL	900 mg/m ³

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ethyl methyl ketone (78-93-3)	
IOEL STEL [ppm]	300 ppm
Regulatory reference	COMMISSION DIRECTIVE 2000/39/EC
Ireland - Occupational Exposure Limits	
Local name	Methyl ethyl ketone (MEK)
OEL TWA [1]	600 mg/m ³
OEL TWA [2]	200 ppm
OEL STEL	900 mg/m ³
OEL STEL [ppm]	300 ppm
Remark	Sk (Substances which have the capacity to penetrate intact skin when they come in contact with it, and be absorbed into the body), IOELV (Indicative Occupational Exposure Limit Values)
Regulatory reference	Chemical Agents Code of Practice 2020
Ireland - Biological limit values	
Local name	Butan-2-one
BLV	70 µmol/l Parameter: butan-2- one - Medium: urine - Sampling time: Post shift
Regulatory reference	Biological Monitoring Guidelines (HSA, 2011)
United Kingdom - Occupational Exposure Limits	
Local name	Butan-2-one (methyl ethyl ketone)
WEL TWA (OEL TWA) [1]	600 mg/m ³
WEL TWA (OEL TWA) [2]	200 ppm
WEL STEL (OEL STEL)	899 mg/m ³
WEL STEL (OEL STEL) [ppm]	300 ppm
Remark	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
United Kingdom - Biological limit values	
Local name	Butan-2-one (methyl ethyl ketone)
BMGV	70 µmol/l Parameter: butan-2-one - Medium: urine - Sampling time: Post shift
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
methylethyl ketone peroxide (1338-23-4)	
Ireland - Occupational Exposure Limits	
Local name	Methyl ethyl ketone peroxides (MEKP)
OEL STEL	1.5 mg/m ³
OEL STEL [ppm]	0.2 ppm
Regulatory reference	Chemical Agents Code of Practice 2020
United Kingdom - Occupational Exposure Limits	
Local name	Methyl ethyl ketone peroxides (MEKP)
WEL STEL (OEL STEL)	1.5 mg/m ³
WEL STEL (OEL STEL) [ppm]	0.2 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

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8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

ethyl acetate (141-78-6)	
DNEL/DMEL (Workers)	
Acute - systemic effects, inhalation	1468 mg/m ³
Acute - local effects, inhalation	1468 mg/m ³
Long-term - systemic effects, dermal	63 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	734 mg/m ³
Long-term - local effects, inhalation	734 mg/m ³
DNEL/DMEL (General population)	
Acute - systemic effects, inhalation	734 mg/m ³
Acute - local effects, inhalation	734 mg/m ³
Long-term - systemic effects, oral	4.5 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	367 mg/m ³
Long-term - systemic effects, dermal	37 mg/kg bodyweight/day
Long-term - local effects, inhalation	367 mg/m ³
PNEC (Water)	
PNEC aqua (freshwater)	0.24 mg/l
PNEC aqua (marine water)	0.024 mg/l
PNEC aqua (intermittent, freshwater)	1.65 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	1.15 mg/kg dwt
PNEC sediment (marine water)	0.115 mg/kg dwt
PNEC (Soil)	
PNEC soil	0.148 mg/kg dwt
PNEC (Oral)	
PNEC oral (secondary poisoning)	0.2 g/kg food
PNEC (STP)	
PNEC sewage treatment plant	650 mg/l
ethyl methyl ketone (78-93-3)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	1161 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	600 mg/m ³
DNEL/DMEL (General population)	
Long-term - systemic effects, oral	31 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	106 mg/m ³
Long-term - systemic effects, dermal	412 mg/kg bodyweight/day

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ethyl methyl ketone (78-93-3)	
PNEC (Water)	
PNEC aqua (freshwater)	55.8 mg/l
PNEC aqua (marine water)	55.8 mg/l
PNEC aqua (intermittent, freshwater)	55.8 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	284.74 mg/kg dwt
PNEC sediment (marine water)	284.7 mg/kg dwt
PNEC (Soil)	
PNEC soil	22.5 mg/kg dwt
PNEC (Oral)	
PNEC oral (secondary poisoning)	1000 mg/kg food
PNEC (STP)	
PNEC sewage treatment plant	709 mg/l
methylethyl ketone peroxide (1338-23-4)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, inhalation	5.288 mg/m ³ (DGUV DNEL List 2019)

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Safety glasses

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection:

Protective gloves

8.2.2.3. Respiratory protection

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

8.2.2.4. Thermal hazards

No additional information available

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8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Colourless.
Odour	: characteristic.
Odour threshold	: Not available
Melting point	: Not applicable
Freezing point	: Not available
Boiling point	: > 77 °C
Flammability	: Heating may cause a fire.
Explosive limits	: Not available
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: 6 °C
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
SADT	: 50 °C
pH	: Not available
Viscosity, kinematic	: < 0.5 mm ² /s
Viscosity, dynamic	: < 0.5 mPa·s
Solubility	: partly miscible.
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50 °C	: Not available
Density	: 1 g/ml
Relative density	: Not available
Relative vapour density at 20 °C	: Not available
Particle size	: Not applicable
Particle size distribution	: Not applicable
Particle shape	: Not applicable
Particle aspect ratio	: Not applicable
Particle aggregation state	: Not applicable
Particle agglomeration state	: Not applicable
Particle specific surface area	: Not applicable
Particle dustiness	: Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

VOC content : 539 g/l

SECTION 10: Stability and reactivity

10.1. Reactivity

Highly flammable liquid and vapour. Heating may cause a fire.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

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10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Combustible materials.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

ethyl acetate (141-78-6)

LD50 oral rat	10200 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Female, Experimental value, Oral, 14 day(s))
LD50 oral	4934 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rabbit	> 20000 mg/kg bodyweight Animal: rabbit, Animal sex: male

ethyl methyl ketone (78-93-3)

LD50 oral rat	2193 mg/kg bodyweight (Equivalent or similar to OECD 423, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	> 10 ml/kg (Equivalent or similar to OECD 402, 24 h, Rabbit, Male, Experimental value, Dermal, 14 day(s))

methylethyl ketone peroxide (1338-23-4)

LD50 oral rat	1017 mg/kg
LD50 dermal rat	4000 mg/kg
LC50 Inhalation - Rat (Dust/Mist)	1.5 mg/l/4h

Unknown acute toxicity (CLP) - SDS : 1.14% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Vapours))
Skin corrosion/irritation : Causes severe skin burns.
Serious eye damage/irritation : Causes serious eye damage.
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : May cause drowsiness or dizziness.

ethyl acetate (141-78-6)

STOT-single exposure	May cause drowsiness or dizziness.
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ethyl methyl ketone (78-93-3)

STOT-single exposure	May cause drowsiness or dizziness.
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STOT-repeated exposure : Not classified

ethyl acetate (141-78-6)

LOAEL (oral, rat, 90 days)	3600 mg/kg bodyweight Animal: rat, Guideline: EPA OTS 795.2600 (Subchronic Oral Toxicity Test)
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ethyl acetate (141-78-6)	
NOAEL (oral, rat, 90 days)	900 mg/kg bodyweight Animal: rat, Guideline: EPA OTS 795.2600 (Subchronic Oral Toxicity Test)

Aspiration hazard : Not classified

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Viscosity, kinematic	< 0.5 mm ² /s

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Before neutralisation, the product may represent a danger to aquatic organisms.
Hazardous to the aquatic environment, short-term (acute) : Not classified
Hazardous to the aquatic environment, long-term (chronic) : Not classified

ethyl acetate (141-78-6)	
LC50 - Fish [1]	230 mg/l Test organisms (species): Pimephales promelas
NOEC (chronic)	2.4 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

ethyl methyl ketone (78-93-3)	
LC50 - Fish [1]	2993 mg/l Test organisms (species): Pimephales promelas
EC50 - Crustacea [1]	308 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	1972 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [1]	2029 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
ErC50 algae	1972 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Growth rate)

12.2. Persistence and degradability

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Persistence and degradability	Not established.

ethyl acetate (141-78-6)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.293 g O ₂ /g substance
Chemical oxygen demand (COD)	1.69 g O ₂ /g substance
ThOD	1.82 g O ₂ /g substance

ethyl methyl ketone (78-93-3)	
Persistence and degradability	Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	2.03 g O ₂ /g substance
Chemical oxygen demand (COD)	2.31 g O ₂ /g substance

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ethyl methyl ketone (78-93-3)	
ThOD	2.44 g O ₂ /g substance
methylethyl ketone peroxide (1338-23-4)	
Persistence and degradability	Readily biodegradable in water.
ThOD	1.816 g O ₂ /g substance

12.3. Bioaccumulative potential

REFACE SPRAYABLE FILLER HARDENER	
Bioaccumulative potential	Not established.
ethyl acetate (141-78-6)	
BCF - Fish [1]	30 (3 day(s), Leuciscus idus, Static renewal, Experimental value)
Partition coefficient n-octanol/water (Log Pow)	0.68 (Experimental value, EPA OPPTS 830.7560, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
ethyl methyl ketone (78-93-3)	
Partition coefficient n-octanol/water (Log Pow)	0.3 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 40 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
methylethyl ketone peroxide (1338-23-4)	
BCF - Other aquatic organisms [1]	13 (Estimated value)
Partition coefficient n-octanol/water (Log Pow)	0.914 (Estimated value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

ethyl acetate (141-78-6)	
Surface tension	No data available in the literature
Ecology - soil	Low potential for adsorption in soil.
ethyl methyl ketone (78-93-3)	
Surface tension	No data available in the literature
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.654 – 1.281 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Highly mobile in soil. Slightly harmful to plants.
methylethyl ketone peroxide (1338-23-4)	
Ecology - soil	No (test)data on mobility of the substance available.

12.5. Results of PBT and vPvB assessment

Component	
ethyl acetate (141-78-6)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
methylethyl ketone peroxide (1338-23-4)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
ethyl methyl ketone (78-93-3)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

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12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

Additional information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Additional information : Flammable vapours may accumulate in the container.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

14.1. UN number or ID number

UN-No. (ADR) : UN 3105
UN-No. (IMDG) : UN 3105
UN-No. (IATA) : UN 3105
UN-No. (ADN) : UN 3105
UN-No. (RID) : UN 3105

14.2. UN proper shipping name

Proper Shipping Name (ADR) : ORGANIC PEROXIDE TYPE D, LIQUID
Proper Shipping Name (IMDG) : ORGANIC PEROXIDE TYPE D, LIQUID
Proper Shipping Name (IATA) : Organic peroxide type d, liquid
Proper Shipping Name (ADN) : ORGANIC PEROXIDE TYPE D, LIQUID
Proper Shipping Name (RID) : ORGANIC PEROXIDE TYPE D, LIQUID
Transport document description (ADR) : UN 3105 ORGANIC PEROXIDE TYPE D, LIQUID, 5.2, (D)
Transport document description (IMDG) : UN 3105 ORGANIC PEROXIDE TYPE D, LIQUID, 5.2
Transport document description (IATA) : UN 3105 Organic peroxide type d, liquid, 5.2
Transport document description (ADN) : UN 3105 ORGANIC PEROXIDE TYPE D, LIQUID, 5.2
Transport document description (RID) : UN 3105 ORGANIC PEROXIDE TYPE D, LIQUID, 5.2

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 5.2
Danger labels (ADR) : 5.2



IMDG

Transport hazard class(es) (IMDG) : 5.2
Danger labels (IMDG) : 5.2



IATA

Transport hazard class(es) (IATA) : 5.2
Danger labels (IATA) : 5.2

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ADN

Transport hazard class(es) (ADN) : 5.2
Danger labels (ADN) : 5.2



RID

Transport hazard class(es) (RID) : 5.2
Danger labels (RID) : 5.2



14.4. Packing group

Packing group (ADR) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable
Packing group (ADN) : Not applicable
Packing group (RID) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

Classification code (ADR) : P1
Special provisions (ADR) : 122, 274
Limited quantities (ADR) : 125ml
Excepted quantities (ADR) : E0
Packing instructions (ADR) : P520
Mixed packing provisions (ADR) : MP4
Transport category (ADR) : 2
Special provisions for carriage - Packages (ADR) : V1
Special provisions for carriage - Loading, unloading and handling (ADR) : CV15, CV22, CV24
Special provisions for carriage - Operation (ADR) : S19
Tunnel restriction code (ADR) : D
EAC code : 2WE

Transport by sea

Special provisions (IMDG) : 122, 274
Packing instructions (IMDG) : P520
EmS-No. (Fire) : F-J
EmS-No. (Spillage) : S-R
Stowage category (IMDG) : D
Stowage and handling (IMDG) : SW1
Segregation (IMDG) : SG35, SG36, SG72

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Properties and observations (IMDG) : Decomposes at elevated temperatures or in a fire. Burns vigorously. Immiscible with water except for acetyl acetone peroxide, tert-butylhydroperoxide and peroxyacetic acid, type D, stabilized. Contact with the eyes and skin should be avoided. May evolve irritant or toxic fumes.

Air transport

PCA Excepted quantities (IATA) : E0
PCA Limited quantities (IATA) : Forbidden
PCA limited quantity max net quantity (IATA) : Forbidden
PCA packing instructions (IATA) : 570
PCA max net quantity (IATA) : 5L
CAO packing instructions (IATA) : 570
CAO max net quantity (IATA) : 10L
Special provisions (IATA) : A20, A150, A802
ERG code (IATA) : 5L

Inland waterway transport

Classification code (ADN) : P1
Special provisions (ADN) : 122, 274
Limited quantities (ADN) : 125 ml
Excepted quantities (ADN) : E0
Equipment required (ADN) : PP, EX, A
Ventilation (ADN) : VE01
Number of blue cones/lights (ADN) : 0

Rail transport

Classification code (RID) : P1
Special provisions (RID) : 122, 274
Limited quantities (RID) : 125ml
Excepted quantities (RID) : E0
Packing instructions (RID) : P520
Mixed packing provisions (RID) : MP4
Transport category (RID) : 2
Special provisions for carriage – Packages (RID) : W7
Special provisions for carriage - Loading, unloading and handling (RID) : CW22, CW24, CW29
Colis express (express parcels) (RID) : CE6
Hazard identification number (RID) : 539

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.

VOC content : 539 g/l

15.1.2. National regulations

No additional information available

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15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

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Full text of H- and EUH-statements:	
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
EUH066	Repeated exposure may cause skin dryness or cracking.
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
H225	Highly flammable liquid and vapour.
H240	Heating may cause an explosion.
H242	Heating may cause a fire.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
Org. Perox. A	Organic Peroxides, Type A
Org. Perox. D	Organic Peroxides, Type D
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis

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